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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	((((acoustic adj emission) or (piezoelectric)) adj sensor) same (collision or crash or impact) same (defect or asperity or protusion) same (map\$4)	USPAT	OR	ON	2004/12/01 17:43
L2	1	((((acoustic adj emission) or (piezoelectric)) adj sensor) same (defect or asperity or protusion) same (map\$4)	USPAT	OR	ON	2004/12/01 17:42
L3	62	((((acoustic adj emission) or (piezoelectric)) adj sensor) same (defect or asperity or protusion)	USPAT	OR	ON	2004/12/01 17:42
L4	14	((((acoustic adj emission) or (piezoelectric)) adj sensor) same (collision or crash or impact) same (defect or asperity or protusion)	USPAT	OR	ON	2004/12/01 17:43

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	72	((radial or angular) adj3 position\$3) same ((detect\$3 or determin\$3 or evaluat\$3 or ascertain\$3 or establish\$3) near5 (collision or crash or impact or protusion or shock))	USPAT	OR	ON	2004/12/01 12:25
L2	4	("360"/\$.ccls.) and 1	USPAT	OR	ON	2004/12/01 12:29
L3	1	("369"/\$.ccls.) and 1	USPAT	OR	ON	2004/12/01 12:20
L4	12	((radial or angular) adj3 position\$3) same ((detect\$3 or determin\$3 or evaluat\$3 or ascertain\$3 or establish\$3) near5 (collision or crash or impact or protusion or shock))	US-PGPUB	OR	ON	2004/12/01 12:21
L5	7	((radial or angular) adj3 position\$3) same ((detect\$3 or determin\$3 or evaluat\$3 or ascertain\$3 or establish\$3) near5 (collision or crash or impact or protusion or shock))	EPO	OR	ON	2004/12/01 12:27
L6	1	((radial or angular) adj3 position\$3) same ((detect\$3 or determin\$3 or evaluat\$3 or ascertain\$3 or establish\$3) near5 (collision or crash or impact or protusion or shock))	JPO	OR	ON	2004/12/01 12:27
L7	14	((radial or angular) adj3 position\$3) same ((detect\$3 or determin\$3 or evaluat\$3 or ascertain\$3 or establish\$3) near5 (collision or crash or impact or protusion or shock))	DERWENT	OR	ON	2004/12/01 12:21
L8	0	((radial or angular) adj3 position\$3) same ((detect\$3 or determin\$3 or evaluat\$3 or ascertain\$3 or establish\$3) near5 (collision or crash or impact or protusion or shock))	IBM_TDB	OR	ON	2004/12/01 12:21
L12	8	((radial or angular) adj3 position\$3) same ((detect\$3 or determin\$3 or evaluat\$3 or ascertain\$3 or establish\$3) same (collision or crash or impact or protusion or shock)) and ((head or slider or actuator) and (ptich yaw))	USPAT	OR	ON	2004/12/01 12:27

L13	624	((fly adj1 height) or (head adj1 height) or ((ang\$4 or radial) adj8 position)) same (collision or crash or protusion)	USPAT	OR	ON	2004/12/01 12:32
L15	153	((fly adj1 height) or (head adj1 height) or ((ang\$4 or radial) adj8 position)) same (collision or crash or protusion) and (spindle)	USPAT	OR	ON	2004/12/01 12:32
L16	97	("360"/\$.ccls.) and 15	USPAT	OR	ON	2004/12/01 12:33
L17	14	((fly adj1 height) or (head adj1 height) or ((ang\$4 or radial) adj8 position)) same (collision or crash or protusion) and (spindle) and (pzt or (piezoelectric))	USPAT	OR	ON	2004/12/01 12:35
L18	8	("360"/\$.ccls.) and 17	USPAT	OR	ON	2004/12/01 12:33
L19	10	((fly adj1 height) or (head adj1 height) or ((ang\$4 or radial) adj8 position)) same (collision or crash or protusion) and (spindle) and (pzt or (piezoelectric))	US-PGPUB	OR	ON	2004/12/01 12:36
L20	0	((fly adj1 height) or (head adj1 height) or ((ang\$4 or radial) adj8 position)) same (collision or crash or protusion) and (spindle) and (pzt or (piezoelectric))	EPO	OR	ON	2004/12/01 12:35
L21	0	((fly adj1 height) or (head adj1 height) or ((ang\$4 or radial) adj8 position)) same (collision or crash or protusion) and (spindle) and (pzt or (piezoelectric))	JPO	OR	ON	2004/12/01 12:36
L22	0	((fly adj1 height) or (head adj1 height) or ((ang\$4 or radial) adj8 position)) same (collision or crash or protusion) and (spindle) and (pzt or (piezoelectric))	DERWENT	OR	ON	2004/12/01 12:36
L23	0	((fly adj1 height) or (head adj1 height) or ((ang\$4 or radial) adj8 position)) same (collision or crash or protusion) and (spindle) and (pzt or (piezoelectric))	IBM_TDB	OR	ON	2004/12/01 12:36
L24	21	((fl\$5 adj height) or crash\$3 or protusion or collision or asperity or attitude) and ((angular or angle or radial) near10 postion\$3)	USPAT	OR	ON	2004/12/01 13:07
L25	6	((acoustic or sound or harmonic or (elastic adj5 wave) or (sound adj1 wave)) near5 sensor) same ((fl\$5 adj height) or crash\$3 or protusion or collision or asperity or attitude)	EPO	OR	ON	2004/12/01 12:36

L26	42	((acoustic or sound or harmonic or (elastic adj5 wave) or (sound adj1 wave)) near5 sensor) same ((fl\$5 adj height) or crash\$3 or protusion or collision or asperity or attitude)	JPO	OR	ON	2004/12/01 12:37
L27	4	((acoustic or sound or harmonic or (elastic adj5 wave) or (sound adj1 wave)) near5 sensor) same ((fl\$5 adj height) or crash\$3 or protusion or collision or asperity or attitude)	IBM_TDB	OR	ON	2004/12/01 12:37
L28	34	((acoustic or sound or harmonic or (elastic adj5 wave) or (sound adj1 wave)) near5 sensor) same ((fl\$5 adj height) or crash\$3 or protusion or collision or asperity or attitude)	DERWENT	OR	ON	2004/12/01 12:37
L29	158	((acoustic or sound or harmonic or (elastic adj5 wave) or (sound adj1 wave)) near5 sensor) same ((fl\$5 adj height) or crash\$3 or protusion or collision or asperity or attitude)	USPAT	OR	ON	2004/12/01 12:37
L30	24	("360"/\$.ccls.) and L29	USPAT	OR	ON	2004/12/01 12:37
L31	83	((acoustic or sound or harmonic or (elastic adj5 wave) or (sound adj1 wave)) near5 sensor) same ((fl\$5 adj height) or crash\$3 or protusion or collision or asperity or attitude)	US-PGPUB	OR	ON	2004/12/01 12:37
L32	17	("360"/\$.ccls.) and L31	US-PGPUB	OR	ON	2004/12/01 12:58
L33	1	"6700724".pn.	USPAT	OR	ON	2004/12/01 13:01
L34	1	"6785081".pn.	USPAT	OR	ON	2004/12/01 13:02
L35	2	(HDI or (head adj1 dis\$2 adj1 interference)) same (acoustic adj3 emission adj3 sensor) same (medium or media or dis\$2)	USPAT	OR	ON	2004/12/01 13:24
L36	6	(detect\$3 or avoid\$3) near5 (protusion asperitiy)	USPAT	OR	ON	2004/12/01 13:26
L37	4646	(detect\$3 or avoid\$3) same (protusion asperity crash collision impact) same (head actuator transducer slider)	USPAT	OR	ON	2004/12/01 13:27
L41	161	(detect\$3 or avoid\$3) near10 (protusion asperity crash collision impact) near10 (head actuator transducer slider) near10 (magnetic)	USPAT	OR	ON	2004/12/01 13:28
L42	10	(detect\$3 or avoid\$3) near10 (protusion asperity crash collision impact) near10 (head actuator transducer slider) near10 (magnetic) same spindle	USPAT	OR	ON	2004/12/01 13:29

L43	6	(detect\$3 or avoid\$3) near10 (protusion asperity crash collision impact) near10 (head actuator transducer slider) near10 (magnetic) same (trigonometry or trigonometric or function)	USPAT	OR	ON	2004/12/01 13:29
L46	23	((function adj5 generat\$3) near10 (cosine and sine)) same (integrat\$3 and multipl\$4)	USPAT	OR	ON	2004/12/01 14:17
L47	2651	((map\$\$) same (defect or protusion or asperity))	USPAT	OR	ON	2004/12/01 16:09
L48	5	((map\$\$) same (defect or protusion or asperity)) same (position\$3 same detect\$3) same (crash or collision or impact)	USPAT	OR	ON	2004/12/01 16:12
L51	53	((map\$\$) same (defect or protusion or asperity)) same (position\$3 same (angular or angle or radial))	USPAT	OR	ON	2004/12/01 16:18
L53	10	((map\$\$) same (defect or protusion or asperity)) same (position\$3 same (angular or angle or radial)) and (crash or impact or collision)	USPAT	OR	ON	2004/12/01 16:13
L54	0	((map\$\$) same (defect or protusion or asperity)) same ((sine and cosine) same (integrat\$3 and multipl\$4) same (add\$3))	USPAT	OR	ON	2004/12/01 16:24
L55	4	((head adj1 dis\$2) adj3 interference) same (AE or (acoustic adj1 emission adj1 sensor))	USPAT	OR	ON	2004/12/01 16:30
L56	10	((head adj1 dis\$2) adj3 interference) same (AE or (acoustic adj1 emission) or vibration\$3 or sound)	USPAT	OR	ON	2004/12/01 16:31